



News and Information

Alabama Board of Licensure for Professional Engineers & Land Surveyors

December 2003

The Board's Bulletin

From the Board Chair –

Thomas F. Talbot, P.E., Ph.D.

The Board of Licensure for Professional Engineers and Land Surveyors is charged with protecting the health, safety, and welfare of the public by regulating the engineering and surveying professions. These two professions overlap in many ways with professions regulated by other licensing boards of the State. A few years ago the Board of Registration for Geology and the Board of Licensure for Professional Engineers and Surveyors entered into a memorandum of agreement.



Your Licensure Board continues to have a dialogue with the Board of Registration for Architects and just recently hosted a dinner for the two boards. The two boards are considering the possibility of entering into some type of memorandum of agreement that will formalize the long-standing working arrangements between the Boards in regards to enforcement actions.

The Board is hoping to have a meeting with the Board of Foresters in conjunction with the January Board meeting to discuss the overlapping of the forestry and surveying professions.

Dr. Haynes and I are looking at our continuing education requirements. The Board has been asked to consider limiting the amount of hours that can be obtained through on-line type courses and making it a requirement that the Surveying Standards of Practice course be taught only in the classroom. We have also been asked to consider requiring the preapproval of courses or course providers. Our mini committee will be reporting back to the Board at the January Board meeting. If you have any comments on the continuing education requirements, please provide them in writing to the board office.

This newsletter is published on an annual basis. Our web site, www.bels.state.al.us, is kept current for items that might be of interest to Alabama licensees. Please routinely check the web site for announcements.

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Keeping Current with Law and Code Changes

Do you know when the Licensure Law and Administrative Code were last changed? Don't get caught not knowing what the requirements are for you to practice in Alabama. It is your responsibility to know the rules. The old adage "ignorance is no defense" holds true. The Board does its best to inform you of changes to both the Licensure Law and Administrative Code. Current versions of the Law and Administrative Code are on the Board's web site, www.bels.state.al.us. Also on the web site is a specific section where proposed changes to the Administrative Code can be seen.

Changes to the Licensure Law are a result of legislation being passed and signed into law by the Governor. The latest changes occurred as a result of the Sunset Audit. Effective June 2003 a clause was added on the composition of the Board. Now when considering the Board member composition, to the extent possible, the nominating committee and the Governor shall select those persons whose appointments ensure that the membership of the board is inclusive and reflects the racial, gender, geographic, urban/rural, and economic diversity of the state.

Administrative Code changes are adopted by the Board. Prior to adopting changes, the Board must advertise the changes and provide a period of time for comments to be sent to the Board prior to the Board adopting the changes. The most recent changes to the Code went into effect June 2003. Those changes include:

- An accelerated process for PE comity applications. This allows the Executive Director to issue PE licenses for Model Law engineer applicants prior to Board meetings. The Board will ratify those licenses at the next board meeting.
- Application filing dates were changed for exam candidates.
- Changes to sealing procedures and added the authorization to use electronic signatures when sealing documents. See *"The Board View."*
- Added section on procedures to be used when the board receives a dishonored check.
- Further clarification on the curricula approved by the Board for PE and LS licensure.
- Immediate relatives cannot be used as references for applications – the relatives can still be used to verify employment experience.
- Added a section for the procedures for candidates with disabilities.
- Added language about procedures for investigating complaints that involved geology. This is as a result of the agreement of the working group comprised of engineers and geologists.
- Changed renewal procedures for those who have been issued both a PE and PLS license. See *"The Board View."*

Do You Know When Your License Expires?



Alabama licenses expire annually on December 31st. Renewals were sent in October. If you haven't received yours or it has been misplaced, contact the board office to have a duplicate renewal form issued or you can request one through our web site.

If you do not renew your license by December 31, your license is in a lapsed status. You are no longer allowed to offer or perform engineering/land surveying services until your license is reinstated. Many individuals are under a misconception that there is a "grace period" for renewing. There are no provisions in the Licensure Law for a grace period in which you can continue to practice. A lapsed license can be reinstated into active status by updating your continuation education and paying a reinstatement fee. Again, you **CANNOT** practice on a lapsed license. You are subject to disciplinary actions, if found practicing on a lapsed license.

The reinstatement/late fees have significantly increased. The **minimum fee is \$250** to reinstate your license once it is in a lapsed status.

As a professional, it is your responsibility to know the status of your license. You can check the status of your license, to include the number of hours of continuing education you have as carryover on the board web site.



Ethics in the Professions

How many of you have really thought about the Code of Ethics that you agreed to abide by when you became certified as interns and when

you received your professional engineer and/or your professional land surveyor licenses. Each time you file an application or renewal, your signature signifies that you understand and agree to abide by the code of ethics.

Ethics are a portion of the Administrative Code and are divided into 5 Canons. These outline how one should conduct their practice.

Canon I – Conflict of Interest – The engineer or land surveyor shall exercise independent judgments, decisions and practices on behalf of clients and employers. The engineer or land surveyor can not solicit or accept, directly or indirectly, any engineering or land surveying contract or employment from a governmental body in which a principal or officer of the licensee's organization serves as a member or employee. The engineer or land surveyor who is a government employee can not participate in considerations or actions with respect to retaining services offered or provided by the licensee, associates or organization to the governmental body.

Comments: The Board office receives many phone calls in regards to contracted city engineers and licensees who work for a governmental body and have their own practices on-the side. No licensee can receive preferential treatment. There is an attorney general's opinion that a city must hire a second professional engineer to serve as the city engineer when the first city engineer's work is to be reviewed.

Canon II – Qualified by Education and/or Experience – The licensee shall act competently and use proper care in performing services for clients or employers and shall act only in fields in which qualified by education or experience. The licensee will not affix their seal to any work dealing with subject matter they are not qualified to form a dependable judgment.

Comments: How many times have you seen one professional engineer seal all discipline drawings being submitted for approval? Even if you supervise someone who you feel is competent in an area, if you do not believe you could render a dependable judgment yourself, then you cannot seal the documents. Building officials have reported to the Board instances where drawings have been submitted by a single engineer and are immediately returned with other engineers' seals on the drawings with no changes in the

drawings from the first submission. This is a typical example of plan stamping.

Canon III – Confidences of Clients and Employers – The licensee shall safeguard and preserve the confidences and private information of clients and employers.

Comments: You can not use confidential information of current or previous clients for your own benefit.

Canon IV – Practice – The licensee shall endeavor to build a practice and professional reputation on the merit of service. The licensee will not do self-laudatory advertising. The licensee will not supplant another licensee in an on-going project. The licensee will not participate in procurement practices (bid submittals) which do not first determine the qualification of the licensee prior to entering into fee negotiations.

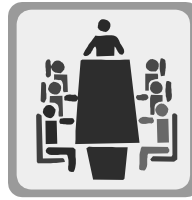
Comments: A licensee can advertise as long as it is not self-laudatory. If you are taking over an on-going project ensure that the first licensee has already been released from the project.

Canon V – Ethics – The licensee shall contribute to the maintenance, integrity, independence and competency of the profession. The licensee will not permit or allow the use of his or her name, professional identification, or seal for the unauthorized practice of engineering or land surveying. The licensee will not place their seal, signature date, and license number on a document unless the document was prepared by the licensee or under their direct control and personal supervision. The licensee will not review the work of another engineer or land surveyor for the same employer without the knowledge or consent of the engineer or land surveyor unless the connection of the engineer or land surveyor with the work has been terminated.

Comments: When you seal and sign a document you assume full responsibility for that document. Direct control and personal supervision does not mean "you stop by once a month" to see what is going on at the office.

The Code of Ethics outlines how you are supposed to conduct yourself as a professional engineer or land surveyor. The increase in complaints being filed with the Board is very disturbing. It is your responsibility to ensure that as a professional engineer or land surveyor, you comply with these Canons. Contact the Board office any time you have a question on the Canons.

The Board's View



Changes for those holding both a PE and PLS license

In the past, an individual who had either an engineering or surveying license and then became licensed in the other area was issued the same license number and the individual was referred to as having a “dual” license. A dual licensee was required to complete only one renewal form and was required to have 10 hours of continuing education in each area. Upon review of the Licensure Law, it has been determined that the two licenses are separate licenses and should not be combined.

In July 2003, the board began issuing separate license numbers to individuals who obtained the two licenses. Those who already have been issued the one number for the two licenses will continue to have only the one number. All license numbers will be followed by “-E” for engineering and “-S” for surveying. **The “-E” and “-S” are for office tracking purposes and do not have to be included on your seals.** Those licensees who have a combined seal should get separate seals – one identifying yourself as a professional engineer and the other identifying yourself as a professional land surveyor.

Beginning with the 2005 renewals all licensees will be required to complete 15 hours of continuing education for each license. For those individuals who have both an engineering license and a surveying license, continuing education that is applicable to both engineering and surveying can be cross-claimed on the renewal of each license. Depending on the courses taken, the total number of hours that you will need to obtain in order to renew will range from 15 to 30.

Spikes in Power Poles

A utility company representative in northeast Alabama submitted this picture and stated their concerns to the Board about surveyors using the utility poles to establish an elevation benchmark. He stated that this would create an entry for termites and carpenter ants to enter the pole and start a decay process. A man from the surveying company told the utility company that this was a standard operating procedure for surveyors. The utility company issued an invoice to the surveying company for \$3,053.25 for changing out this 65 ft pole. Surveyors should remember that the utility poles are property of the utility companies and should not be used without permission from the respective company.



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The Board View... *(continued from page 4)*

Electronic Signature Requirements

Changes to the Administrative Code now allow licensees the use of electronic signatures when certain precautions are used. Section 330-X-2-.01(11)(b) of the Administrative Code specifies that the digital signature must be unique to the person using it, it must be capable of verification, it must be under the sole control of the person using it, and it must be linked to a document in such a manner that the digital signature is invalidated if any data in the document is changed.

What does all of that really mean? When using a digital signature no other individual must be able to place your digital signature on a document. There must be some type of encryption measure that will ensure verification of your signature. If a document that has a digital signature is changed in any manner then the signature must be automatically removed from that document.

There is software currently on the market that will provide these safeguards. As an agency of the State, the Board is not at liberty to recommend one product over another. If you have a question as to our requirements, call the Board office.

Continuing Education Requirements for Renewals

The continuing education requirement was initially instituted by the legislature and is intended to keep the professional current in their areas of practice. The Board has seen an increase in the use of audio, video, and on-line courses to meet the continuing education requirements for licensure renewal. To ensure that these types of courses are actually completed, the board has recently made changes to the Administrative Code. If you elect to meet your requirements by taking a correspondence, video, audio, or on-line course, there must be a mechanism that shows evidence of achievement and completion and/or a final graded test.

Rule 330-X-13.02 of the Administrative Code outlines what activities will meet the continuing education requirement and what criteria courses must meet. In-house training programs can meet the requirement, but equipment demonstrations or programs developed specifically as equipment demonstrations are not permitted.

The Board has received requests to reconsider its position that it will not preapprove courses or course providers. At this time, there has not been a change in this policy.

Personnel Announcements



Veston W. Bush, Jr., P.L.S., Reappointed as Board Member

Veston Bush was reappointed to the Board to serve a term from April 22, 2003 to April 21, 2008. A very active member of the Board, Mr. Bush has served as Secretary, Vice Chair, and Chair of the Board. He also has been active in NCEES, working on the national land surveying examination committee.

New Staff Person

In July 2003, Alice Stewart joined the office staff. Alice is our principal focal point for certificates of authorizations and verifications of licensure. Alice replaces Karen McGuire who retired in May. We welcome Alice to the staff and look forward to her employment with the Board.



Disciplinary Action

The Board office receives and processes complaints regarding engineering and land surveying activities. Twenty-nine investigations were conducted which resulted in administrative actions which are not considered disciplinary actions and are not listed in the below disciplinary actions. Administrative actions include closing unsubstantiated complaints, letters of warning, and cease and desist letters. Below is a recap of disciplinary actions from October 2002 through October 2003. Two cases in which there were formal hearings and that are under appeal in the Circuit Court of Montgomery are not listed. They will be included in future newsletters, once all court action has been completed.

Formal Disciplinary Actions

Incompetency

Mr. Gerald D. Bradford, P.E. 7047, Trussville, AL, agreed to a consent order for errors and omissions in design plans for a church that he had signed and sealed. Mr. Bradford was assessed a \$2,500 fine and agreed to a two-year stayed suspension with two years probation.

Mr. Donald E. Pruett, P.E. 2874, Montrose, AL, was found guilty at a formal hearing for applying his professional seal and signature to ten pages of design plans that contained errors and omissions of the acceptable standards of practice for engineering. Mr. Pruett was instructed to not violate provisions of the Licensure Law in the future. Mr. Pruett's P.E. license was suspended for two years, with the suspension being stayed with two years probation. If he elects to continue to practice structural engineering, he will have to take a structural engineering course selected by him and approved by the Board within 12 months and Mr. Pruett was charged \$753 for the cost of the hearing.

Mr. Joseph I. Harper, III, P.E. 12135, Spanish Fort, AL agreed to a consent order for errors and omissions in design plans for a church that he had signed and sealed. Mr. Harper was assessed a \$2,500 fine and agreed to a two-year stayed suspension with two years probation.

Ethics Violations

Mr. Richard S. Cobb, E.I. 12849, Anchorage, AK, was found guilty at a formal hearing of falsifying his application for the FE examination and his P.E. application. Mr. Cobb claimed work experience during a time period when he was in prison serving a sentence for sexual abuse of a minor. Mr. Cobb's E.I. certification was revoked, his P.E. application was denied, and Mr. Cobb was charged \$385 for the cost of the hearing.

Mr. Lee Y. Greene, Jr., P.E. 21218, Hartselle, AL, agreed to a consent order for submitting checks for his firm's certificates of authorization for engineering and land surveying renewals that were dishonored by the bank. Mr. Greene was assessed a \$1,000 fine and agreed to a six-month stayed suspension with six months probation.

Mr. Jose U. Barnes, P.E. 19121, Arlington, TX, agreed to a consent order for conviction of mail fraud in federal court. Mr. Barnes' P.E. license was revoked.

Mr. Daniel Headrick, P.L.S. 17015, Cordova, AL, agreed to a consent order for accepting money to perform a survey of a church property which he failed to complete or to refund the money. Mr. Headrick agreed to reimburse the church \$2,000 to be paid in ten installments of \$200 beginning thirty days from the date of the Final Order. He also agreed to a six-month suspension of his license with two years probation.

Mr. David Beasley, P.E. 5693, Robertsedale, AL, was found guilty at a formal hearing of failing to provide subpoenaed document to the Board regarding an investigation claiming he had applied his professional seal and signature to a design drawing for Oakland Subdivision that bears the firm name Poly Surveying without permission from Poly Surveying or being employed by Poly Surveying. Mr. Beasley was strongly cautioned to delineate and clearly distinguish all work he performs as separate work performed by him on documents provided by other professional engineers or land surveyors and/or firms. He was fined \$1,500, which included the cost of the investigation, to be paid within fifteen days of receipt of the Final Order. Failure to submit payment of the fine within six months of date of the order will cause Mr. Beasley's P.E. license to be revoked.

Mr. Derek Harvel, P.L.S. 18387, Decatur, AL, agreed to a consent order for providing checks on three different occasions to the Board that were dishonored by the bank. Mr.

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Disciplinary Action... *(continued from page 6)*

Harvel was assessed a \$500 fine and agreed to a six-month stayed suspension with six months probation.

Mr. Richard Borden, P.E./P.L.S. 13402, Gulf Shores, AL, agreed to a consent order for accepting money to provide engineering services relative to obtaining an ADEM permit for a dirt pit that he failed to provide. Mr. Borden agreed to pay Mr. Sam Styron, the client, \$6,500 as reimbursement for the fee he received and the fine imposed on Mr. Styron by ADEM. Mr. Borden agreed to a two-year stayed suspension of his P.E. license with a two-year probation.

Unlicensed Practice

Mr. Alan Hurst, non-licensee, Daphne, AL, agreed to a consent order for practicing land surveying without a license. Mr. Hurst was assessed a \$1,250 civil penalty in three monthly installments commencing one month from the date of the final order and agreed to cease and desist offering and/or performing land surveying until such time as he becomes licensed with the Board. Mr. Hurst was charged \$150 for the cost of the investigation.

Practicing Under a Lapsed License/Certificate of Authorization

Mr. Julius Barrett, P.L.S., 5171, Mobile, AL, agreed to a consent order for performing surveys while his license was lapsed; completing surveys which violated the minimum technical standards; and allowing Mr. Alan Hurst, a non-licensee, to issue invoices and receive payment directly for said surveys. Mr. Barrett agreed to a nine-month suspension of his license and was assessed a \$3,500 fine to be paid in 12 installments after his license is reactivated. Mr. Barrett also agreed to notify by certified mail and return receipt directly to the Board the 41 clients that received a survey bearing his seal and signature during the time his license to practice land surveying was lapsed.

Mr. Donny Hagood, P.E. 13018, Graysville, AL, agreed to a consent order for applying his professional seal and signature to design plans during the time his P.E. license was lapsed. Mr. Hagood was assessed a \$2,000 fine and agreed to a one-year stayed suspension with one-year probation.

Mr. Bobby J. Spanick, P.L.S. 17517, and Stone and Sons Electrical Contractors, Leeds, AL, agreed to a consent order for offering and or performing land surveying during the time the firm's land surveying certificate of authorization was lapsed. Mr. Spanick was assessed an \$800 fine and agreed to a six-month stayed suspension of his P.L.S. license with six months probation.

Mr. Marvin E. Allen, P.L.S. 12696, Prattville, AL, agreed to a consent order for applying his professional seal and signature to surveys while his license to practice surveying was lapsed. The completed surveys also contained minimum technical standards violations. Mr. Allen was assessed a \$1,000 fine and agreed to a one-year stayed suspension with one-year probation.

No Certificate of Authorization

Mr. Joseph Conn, P.L.S. 9049, and Conn & Allen Engineering and Land Surveying, Pelham, AL, agreed to a consent order for having "Engineering" in the firm's title without employing a professional engineer or obtaining an engineering certificate of authorization. Mr. Conn was assessed a \$1,000 fine and agreed to a one-year stayed suspension with one-year probation. Mr. Conn also agreed to cease using the title "Engineering" in the documents and signage until he receives a license to practice engineering or employs a licensed P.E. and obtains a certificate of authorization for engineering.

Mr. Steven M Allen, P.L.S. 12944, and Conn & Allen Engineering and Land Surveying, Pelham, AL, agreed to a consent order for having "Engineering" in the firm's title without employing a professional engineer or obtaining an engineering certificate of authorization. Mr. Allen, the employee who actually put up the signage and offered engineering services, was assessed a \$500 fine and agreed to a one-year stayed suspension with one-year probation. Mr. Allen also agreed to cease using the title "Engineering" in documents and signage until he receives a license to practice engineering or employs a licensed P.E. and obtains a certificate of authorization for engineering.

Mr. Stephan Rutan, P.L.S. 15155, and KJM Surveying, Milton, FL, agreed to a consent order for providing four surveys to an Alabama title company that bear the firm's name without obtaining a land surveying certificate of authorization. Mr. Rutan was assessed a \$500 fine and agreed to a six-month stayed suspension with six months probation. He also agreed to cease offering land surveying services through the firm KJM Surveying until it obtains a certificate of authorization for land surveying.

APA USA Inc, an un-certificated firm, Flower Mound, TX, agreed to a consent order for providing an engineering report concerning Big Escambia Creek Field in Alabama without employing a licensed AL professional engineer and without obtaining a certificate of authorization for engineering. The firm was assessed a \$3,000 civil penalty and \$175 to the Board for the cost of the investigation. They also agreed to cease offering/performing engineering in the State until it employs a licensed Alabama P.E. and it obtains a certificate of authorization for engineering.

Disciplinary Action... *(continued from page 7)*

Mr. Donald Wheeler, P.L.S. 23340, Chelsea, AL, agreed to consent order for allowing his un-certificated firm to provide land surveying services and present a marketing letter offering surveying services without obtaining a land surveying certificate of authorization. Mr. Wheeler was assessed a \$1,000 fine and agreed to cease offering/performing surveying services through the firm Wheeler and Associates until the firm obtains a land surveying certificate of authorization. Mr. Wheeler also agreed to a one-year stayed suspension with a one-year probation.

Mr. Gerald Muldowney, a non-licensee, and Dynan Group Inc., Gainesville, FL, agreed to a consent order for presenting design plans that bear the title "Civil Engineer" without employing a licensed Alabama P.E. and obtaining an engineering certificate of authorization. Mr. Muldowney and the firm was assessed a \$3,000 civil penalty and \$186 to the Board for the cost of the investigation. They also agreed to cease offering/performing engineering in the State until the firm employs a licensed Alabama P.E. and obtains an engineering certificate of authorization.

Mr. Robert M. Johnson, a non-licensee, Birmingham, AL, agreed to a consent order for submitting a certificate of authorization renewal for his firm which contained the name of a P.E. no longer employed by the firm as the firm's principal engineer. The signature of the P.E. was not that of the engineer. Mr. Johnson was assessed a \$1,000 civil penalty and \$110 to the Board for the cost of the investigation. He also agreed to cease and desist offering/perform-

ing engineering until the firm employs a licensed P.E. and obtains an engineering certificate of authorization from this board.

Mr. Vaughn Carlson, a non-licensee, and Value Engineering, Huntsville, AL, agreed to a consent order for offering/performing engineering in Alabama without obtaining a certificate of authorization for engineering. Mr. Carlson and the firm was assessed a \$500 fine and agreed to cease and desist offering/performing engineering services through the firm until it receives a certificate of authorization for engineering from the board.

Standards of Practice Violations

Mr. W. M. Varnon, P.L.S. 9324, Hueytown, AL, agreed to a consent order for providing a survey that contained minimum technical standards violations and failing to note an encroachment on the property. Mr. Varnon paid \$500 restitution to Ms. Maple Tabb and agreed to pay a \$500 fine that was stayed upon the condition he meets all requirements of the consent order. Mr. Varnon also agreed to a one-year stayed suspension with a one-year probation.

Mr. W. M. Varnon, P.L.S. 9324, Hueytown, AL, agreed to a consent order for completing a survey that contained standards of practice violations. Mr. Varnon was assessed a \$500 fine and agreed to a one-year stayed suspension with a one-year probation.

Year 2004 Board Meeting Dates

January 9-10, 2004	July 30, 2004
February 25-27, 2004	September 10, 2004
April 9, 2004	November 12, 2004
June 18, 2004	



Office Holiday Closings

The Board office will be closed December 25th, 26th and January 1st in observance of the holidays. It will reopen at the normal hours on January 2nd.

2004 Exam and Filing Dates

Examination	Exam Date	Filing Deadline	Examination	Exam Date	Filing Deadline
Fundamentals of Engineering	Apr 17 Oct 30	Jan 15 Jul 1	Princs & Practice of Engineering	Apr 16 Oct 29	Jan 15 Jul 1
Fundamentals of Land Surveying	Apr 17 Oct 30	Jan 15 Jul 1	Princs & Practice of Land Surveying	Apr 16 Oct 29	Jan 15 Jul 1
Alabama Stand., History & Law	Feb 17 Apr 16	Jan 15 Jan 15	Alabama Stand., History & Law	Jul 28 Oct 29	May 31 Jul 1

Exam Corner



Exams certified for Veteran Administration Reimbursement

(reprint from NCEES License Exchange October 2003)

Due to the recent certification of NCEES examinations, veterans of the U.S. military and their dependants are now eligible to receive reimbursement from the Office of Veterans Affairs for the actual cost of any examination offered by NCEES.

Title 38, U.S. Code of Federal Regulations, 21.4258, requires entities seeking certification for veterans' education benefits to submit an application to the proper authority in the state where the organization is chartered. NCEES determined the proper agency to be the South Carolina Commission on Higher Education, which is responsible for reviewing and certifying the application and submitting the results to the Office of Veterans Affairs.

In the application, NCEES provided evidence that its engineering and surveying examination are "generally accepted, in accordance with relevant government, business, or industry standards, employment policies, or hiring practices as attesting to a level of knowledge or skill required to enter into, maintain, or advance employment in the particular vocation or profession."

NCEES was also required to demonstrate that it is properly incorporated in South Carolina; that it employs experts in the testing industry to assist with the development of the examinations; that NCEES issues prompt notice of the results of all examinations; and that NCEES would, upon request, make available all appropriate records pertaining to the test data of veterans or other eligible persons for inspection by the Office of Veterans Affairs or its representatives.

All examinations offered by NCEES have been certified and are eligible for reimbursement for qualified veterans and their dependants. Questions related to the process for requesting reimbursement should be directed to the Office of Veterans Affairs.

Changes to the Exam Fee Policies

The Board has approved a new fee schedule for exam candidates. The new fee schedule follows:

Fundamentals of Engineering		
1 st Time Taker	\$60	Repeat \$130
Principles and Practice of Engineering	\$200	
Fundamentals of Land Surveying		
1 st Time Taker	\$75	Repeat \$145
Principles and Practice of Land Surveying	\$200	
Alabama Standards of Surveying Practice	\$100	

Examination Changes

Future changes to NCEES Examinations have been announced by NCEES. Please see the NCEES web site, www.ncees.org for the new specifications.



FE Examination – The new FE reference handbook will change to a 6th edition with the April 2004 exam administration.

PE Examination in Civil – The Structural Design Standards and the Transportation Design Standards of the Civil PE examinations will change with the April 2004 exam administration.

PE Examination Content – The subject matter areas to be included on the Structural I PE examination will be revised effective with the April 2004 exam. Effective with the October 2004 exam administration the PE examinations in Environmental Engineering and Fire Protection Engineering will also be revised.

PE Examination in Structural II – The format for the Structural II examination will be changing starting with the April 2004 exam administration. The new exam will contain four problems and will be scored as a composite. There will be four problems covering bridges and four problems covering buildings. An examinee that answers bridge problems in the morning will be required to answer bridge problems in the afternoon. An examinee that answers building problems in the morning will be required to answer building problems in the afternoon. Examinees will be required to pass the total exam in a single administration. The Structural II exam is only offered in Alabama as a proctored exam for another jurisdiction.



Communicating and text-editing calculators prohibited in exam room

(Reprinted from NCEES Licensure Exchange October 2003)

In August 2003, NCEES issued a press release indicating that, with the April 2004 exams, it will begin strictly enforcing Exam Policy 15, which prohibits in the exam room communicating calculators and any device that might compromise the security of the exams and the exam process. As a result, communicating and text-editing calculators will not be allowed in the exam room. The press release included a representative list of such calculators: HP 48GX, HP 490G, TI-83 Plus, TI-83 Plus Silver Edition, TI, 89, TI-92, and Voyage 200.

As a result of the press release, Council headquarters has received 20-30 calls a day from potential examinees asking, "Why?" Their angst and protests vary, but often heard are the comments, "Ridiculous!", "This is an extreme reaction.", "You want me to bring stone and chisel to the exam?", "Accomplishing subterfuge with these calculators would take Houdini!" If headquarters is receiving such a response, it is likely that many Member Boards and Member Board Administrators are as well. One NCEES volunteer comments, "I've received some angry calls. When I explain to them what is on the Internet, what NCEES was able to reproduce, what the calculators are capable of—they lose their anger. They often say something like, 'It's a shame that the majority have to suffer for the wrongdoing of a few.' They still are not happy, but they understand why we are [enforcing the calculator policy]." The strict enforcement of EP 15 is considered by the Board of Directors to be vitally important to the security of NCEES exams and ultimately the integrity of the licensure process. Some of the facts leading to this conclusion are outlined below.

Why enforce EP 15?

Good people lie. Smart people cheat. Sometimes honest people lie and cheat when they are faced with very high stakes—like loss of a job promotion, career status, or employment. Perhaps they convince themselves they have no other choice. Regardless, examinees have been caught cheating on NCEES exams. Board members, proctors, university professors, employers—they look at each highly educated, hardworking, earnest examinee, and say, "He would never cheat. She would never give away answers." The facts—examinees caught sharing answers, answer sheets analyzed statistically to be more similar than chance would allow, questions and answers found scribbled in reference material or posted on the Internet—speak differently. Before enforcement of EP 15 can make sense, one

must recognize that unfortunately cheating on NCEES exams does happen.

Testing organizations such as NCEES are concerned with two types of cheating and exam compromise; distributing questions and answers before or after the exam and sharing answers during the exam. The first is surprisingly easy to do, especially with today's large-memory, text-editing calculators. NCEES has long banned calculators with QWERTY keypads (keys arranged in a typewriter format). The thought process has been that entering data via a QWERTY keypad is fast and effective, while accomplishing the same with an alphanumeric keypad is too cumbersome to effectively enter exam questions and answers into a calculator's memory. This was demonstrated to be false by a Council staff member at the 2003 Annual Meeting. Using an unaltered calculator with text editor; the NCEES Director of Information Technology Phyllis Fenno—who does not use such a calculator on a regular basis—was able to enter entire questions and answers into the calculator's memory within minutes. Fenno commented, "It was awkward at first, but after the first three questions I became familiar with the key strokes and was proficient at it." The potential of exam compromise is obvious, especially in regard to examinees who are not interested in passing the exam and are only present to obtain questions. It is possible to leave the exam room with exact questions and answers and post them on the Internet, sell them, or send them to an examinee in another time zone who has not taken that portion of the exam yet. Calculators with text-editing capabilities provide a serious potential for exam compromise and as such are prohibited in the exam room.

Many scoff at the thought of examinees communicating via their calculators during an exam. They explain that such infrared communication must take place within two inches, and the connection is difficult to establish. The likelihood of a proctor being oblivious to such collusion is practically nil. Through tweaking of two calculators, NCEES was able to stretch such infrared communication to eight inches, but it was necessary to have the computers "lined up just right," something unlikely to be accomplished in the exam room without notice. The far more likely risk to exam security comes from a combination of radio waves and the curiosity and creativity of some very bright people. "It's amazing what one can find on the Internet," says NCEES Past President Bob Krebs. Within

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minutes of typing key words into a search engine, one can access a wealth of software programs, available for download, designed especially for large-memory calculators. Board members found one site alone that contained over 1,700 programs. Most were games; some were aids to solving mathematical equations. Each program was accompanied by a brief description, one of which contained the phrase “good for cheating on exams.” A text-editing program facilitated the entry of data into an alphanumeric keypad, implementing text wrap, cut and paste, and other functions similar to Microsoft Word. Another program contained ‘RF chat’ in its description. It contained chat room software along with a specifications and parts list for developing a radio frequency (RF) card. With this card and additional modifications, a calculator operator can communicate with others via radio waves, effectively chatting—even inside the exam room.

The Board did not take the program developer’s description at face value. A Council staff member drove to Radio Shack. With only \$40, he bought almost all the parts needed for such modifications. One part had to be ordered from France—still within the \$40. After taking two calculators apart, building and inserting the RF cards, and tweaking the finished products just a bit, NCEES staff members were able to communicate with one another at a distance of 100 feet. They tested the communication again and again and were able to communicate easily with one operator seated in an office and the other standing in the outside parking lot. The LCD screens displayed the names of each “chatter” along with his or her keyed entry.

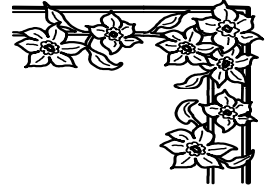
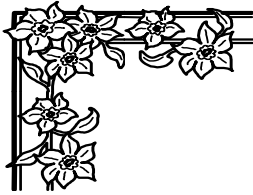
Is NCEES overreacting?

The effects of such readily available software on licensing exams are enormous, and concern about RF communication during exams is not new. Hewlett Packard developed the HP 49 calculator in response to the banning of the HP 48 from some exams held in Europe. In an effort to prevent cheating, some universities in Canada, Australia, and Europe provide lists of which calculators may be used during exams. Hewlett Packard will release the HP33s in December 2003 via www.hpshopping.com to help combat this concern about sharing answers during exams. The HP 33s is a noncommunicating calculator without text-editing capabilities. But unlike other such calculators, the HP33s will allow for standard algebraic entry or RPN—the method preferred by many engineering students and professionals. After reviewing the software available and the demonstrations of communication capability, the NCEES Board of Directors decided that strictly enforcing EP 15 was the only way to ensure the integrity of the licensing process and the protection of the public.

Is it possible to pass NCEES exams without a large-memory calculator?

Certainly. The exams are designed so that a minimally competent engineer or surveyor can pass using a basic scientific calculator. The NCEES Web site lists examples of acceptable models manufactured by Texas Instruments and Hewlett Packard. NCEES subject-matter expert Frank Loudon refers to a particular model saying, “The HP 9s is a powerful calculator that has everything you need to pass the exam. I use it when I develop questions for the Electrical [and Computer Principles and Practice of Engineering] exam.” Admittedly, most engineering students and professionals use high-end calculators on a regular basis. Becoming familiar with a different calculator strictly to take an exam can be frustrating. The NCEES Board of Directors is aware of this hardship, but there is no question of what to do when weighing the relatively small amount of time it would take examinees to familiarize themselves with a more basic calculator versus leaving open a window of opportunity for unscrupulous examinees to pass the licensing exam when they are not minimally competent. NCEES exams form an important rung on the licensure ladder. If that rung is broken—even just a few times during an administration—the public is endangered. The good news is that for the April 2004 exam, the first under which the Board is strictly enforcing EP 15, Hewlett Packard anticipates that the HP 33s will be available, easing the difficulty of becoming used to a less powerful calculator.

Does prohibiting text-editing and communicating calculators in the exam room completely prevent cheating on NCEES exams: Unfortunately not. After examining some of the programs posted on the Internet, one NCEES volunteer commented, “It’s easy to see how developing such software could be fun.” New programs for high-end calculators are being posted even as you read this article. The potential for wireless communication among calculators is mushrooming. Cameras and scanning devices are becoming smaller and more accurate, easily overlooked on a multipatterned shirt. For many, gaining an engineering or surveying license is a personal accomplishment. For others it may mean the difference between career advancement or stagnation—high stakes enhancing the temptation to cheat. Exam compromise will continue to be an issue with which licensure regulators must struggle. Strictly enforcing EP 15 is an important component of maintaining the integrity of engineering and surveying licensure. Ultimately however, the protection of the public, the integrity of our professions, and significance of an engineering or surveying license lies with the examinees, most of whom are committed to their own integrity, quality work, and professional ethics.



In Memory Of

The Board has received notice of the deaths of the following licensees:

Professional Engineer

James A. Hankins, Jr.	2042
Erskine Vandegrift, Jr.	2496
D. A. Whisenant	2866
Gaines P. Gravlee	3872
Claude E. Green	4923
Joe P. Aplin	5954
Harry C. Simrall	6187
Thomas A. Mitchell	6879
James Perrin Tamblyn	7447
Charles L. Riley, Jr.	7949
Hugh M. Feather	8299
Richard E. Romei	9520
Leon Y. Sadler III	9762
Robert E. Martin	9826
Robert A Dugan	11210
Ricky Buren Harrison	11324
William H. McCumber	11732
Arthur Hasty	12253
Coy Lynn Mitchell	12471
Richard E. Mullen, Jr.	14172
Jeffrey Alan Chapman	15778
Kenneth George Johnson	17278
Charles Michael Reeves	17290
Darryl Boyud Blount	17501
Bruce E. Allender	20573

Brian Austin Burnell	20905
Donald Lavelle Purvis	21073
Sidney Wheeler Carter	21940
Mirwais Gran	22675

Professional Land Surveyor

Andrew J. Saks	752
George B. Pickett, Jr.	2299
William A. Hallmark	2474
James Albert Hill	9682
Nelson Brennan Delavan	24653

Professional Engineer & Land Surveyor

B. A. Williams	1640
Robert L. Roberts	3307
Chester A. Smith	4164
William A. Hilyer	7724
W. Stewart Harkins	18394

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